

# INTERNATIONAL SEARCH REPORT

international Application No  
PCT/US2004/025477

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> A61K39/02      A61K39/385      A61K39/39		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) A61K		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal , BIOSIS , EMBASE, PAJ, WPI Data		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	LEE CHI-JEN: "Quality control of polyvalent pneumococcal polysaccharide-protein conjugate vaccine by nephelometry" BIOLOGICALS, vol. 30, no. 2, June 2002 (2002-06) , pages 97-103, XP002330498 ISSN: 1045-1056 figure 1	1-8, 19-22
X	US 4 356 170 A (JENNINGS ET AL) 26 October 1982 (1982-10-26) the whole document	1-8, 19-22
-/-		
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.		
* Special categories of cited documents : "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the International filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "Y" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family		
Date of the actual completion of the international search  30 November 2005		Date of mailing of the international search report  05. 12. 2005
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL- 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 cpo nl, Fax: (+31-70) 340-3016		Authorized officer  Perez , F

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C(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>SHAHER DOUGUS E ET AL: "Acti vation of sol uble polysaccharides with l-cyano-4-di methyl ami nopyr i di ni um tetraf luoroborate (CDAP) for use in protein-polysaccharide conjugate vacci nes and immunological reagents. II. Selective crossl inking of protei ns to CDAP-activated polysacchari des"</p> <p>VACCINE, vol . 18, no. 13, January 2000 (2000-01) , pages 1273-1281 , XP002330499 ISSN: 0264-410X the whole document</p>	9-12, 23-26
X	<p>LEES A ET AL: "Activation of sol uble polysaccharides with l-cyano-4-di methyl ami nopyr i di ni um tetraf luoroborate for use in protein-polysaccharide conjugate vacci nes and immunological reagents. "</p> <p>VACCINE. FEB 1996, vol . 14, no. 3, February 1996 (1996-02) , pages 190-198, XP004057339 ISSN: 0264-410X the whole document</p>	9-12, 23-26
X	<p>KONADU EDWARD Y ET AL: "Phase 1 and phase 2 studies of Salmonel la enteri ca serovar Paratyphi A 0-specifi c polysacchari de- tetanus toxoid conjugates in adults, teenagers, and 2- to 4-year-ol d children in Vietnam"</p> <p>INFECTION AND IMMUNITY, vol . 68, no. 3, March 2000 (2000-03) , pages 1529-1534, XPO02330501 ISSN: 0019-9567 the whole document</p>	9-12, 23-26
A	<p>MULARD L ET AL: "Vaccins polyosidiques"</p> <p>ANNALES DE L<sup>1</sup>INSTITUT PASTEUR ACTUALITES, vol. 12, no. 2, May 2002 (2002-05), pages 37-54, XP004476966 ISSN: 0924-4204 the whole document</p>	1-32

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all  
searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this International Search Report  
covers the invention first mentioned in the claims; it is covered by claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

## Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims : 1-8, 19-22 (all completely) and 31-32 (in part)

Conjugate vaccines and methods for preparing them by reacting aldehyde activated polysaccharide with hydrazine activated protein.

- 1.1. claims: 9-12, 23-26 (all completely) and 31-32 (in part)

Conjugate vaccines and methods for preparing them by reacting CDAP activated polysaccharide with hydrazine activated protein.

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2. claims: 13-18, 27-30 (all completely) and 31-32 (in part)

Conjugate vaccines and methods for preparing them by reacting hydrazine activated polysaccharide with APDO activated protein.

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### Information on patient family members

International Application No.

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4356170	A	26-10-1982	CA 1181344 A1
			22-01-1985